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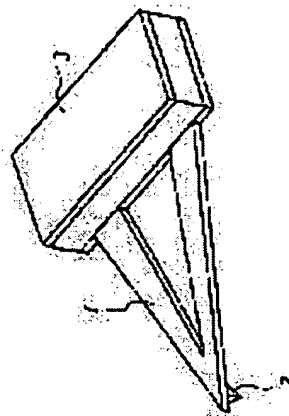
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(54) PROBE AND ITS MANUFACTURE

(57)Abstract:

PURPOSE: To form a light-weighted probe with large rigidity by directly attaching a diamond probe at a selected position at the tip of a cantilever by means of diamond vapor phase synthesis.

CONSTITUTION: A cantilever 1 with a sharp tip is formed by means of semiconductor lithography, and a probe 2 made of diamond is attached to a selected position at the tip of the lever 1. As a material of the lever 1, a substance with large rigidity and small specific gravity such as Si, diamond, SiO₂ and Si₃N₄ is desirable. A mixture gas of hydrocarbon and hydrogen is made flow into an evacuated vessel to be plasma, diamond is vapor-phase synthesized on the lever 1 to be a base, and the probe 2 is directly attached to a direction opposite to a support 3 on the lever 1, thereby forming a light-weighted probe with large rigidity, while it is further possible to prevent damage due to contact with a specimen surface.



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